Multiply Twinned Particles at Earlier Stages of Gold Film Formation on Alkalihalide Crystals

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Abstract

Succeeding to previous studies (Ino, 1966; Ogawa *et al.*, 1966), the orientations and the structures of thin gold films formed in ultrahigh vacuum by evaporation on to NaCl and KCl have been studied at earlier stages of film formation by electron diffraction and electron microscopy, especially by the dark field technique. The present paper describes some results obtained after the previous reports. Some particles which show rhombic shape in the bright field image and various contrasts in the dark field images have newly been observed. In order to explain such contrasts, the "multiply twinned particle model with a nucleus of (001) orientation" is proposed. Abnormal diffraction spots and image contrasts observed from thin gold films have satisfactorily been explained by using this model in some cases and by using the multiply twinned particle models with a nucleus of (111) orientation in other cases.

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